ASBT504

INSTALLATION / OWNER'S MANUAL

Wireless Smart EQ Processor

axxera™

Preparation

Please read entire manual before installation. Due to the technical nature of this product that has to connect to the amplifier, it is highly recommended that your Smart EQ is installed by a professional installer or an authorized dealer.

Before You Start

- Disconnect negative battery terminal.(consult a qualified technician for instructions)
- Avoid installing the Smart EQ where it would be subject to high temperatures, such as direct sunlight, or where it would be subject to dust, dirt or excessive vibration.
- Use extreme caution when drilling holes to avoid damaging fuel lines or existing vehicle wiring.

Mounting Location

- It is recommended to install the unit nearest to the amplifiers to minimize interferance and installaion.
- Do not install the Smart EQ where it may be exposed to moisture.

TYPICAL MOUNTING METHOD

Connection Descriptions

Power Wire (+12V)
- Disconnect negative battery terminal before processing. Consult a qualified technician for instructions if you are unsure.
- Plan wire routing before cutting any wires to length. Begin by routing the power +12V wire from the battery to the Smart EQ location.
  Power line for amplifier can be shared. Use a grommet when running wires through the firewall or metal openings. Avoid running the power wire near existing vehicle wiring to prevent induced noise from entering the audio system.
- Use extreme caution when drilling holes to avoid damaging fuel lines or existing vehicle wiring.

Ground Wire (GND)
- Choose a clean unpainted section of metal or the vehicle chassis when attaching the ground connection. Be sure to clean the area of any dirt or grease.
  The Smart EQ ground wire can be shared to the ground line of the amplifier.

ACC Wire (+12V)
- ACC wire has to be connected to the accessory wire of the car.

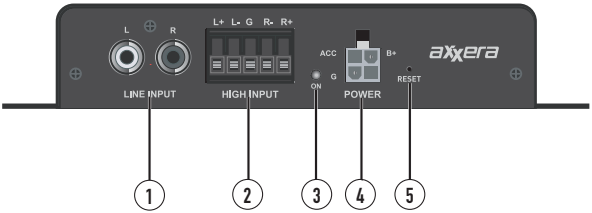
Remote Turn-on Wire (REM)
- The remote turn-on wire can be connected to the remote turn-on terminal on the amplifier. This is used to turn on the Smart EQ with a signal is detected.

Input Signal
- The Smart EQ's input signal connects to the head unit's low level(RCA) or high level (speaker wire) outputs.
- Low level input signals deliver the best performance.
  If unavailable, use the high level inputs – when interfacing with factory head unit Smart EQ's output signals(RCA) connect to the amplifier's low level inputs(RCA).

CAUTION
- Do not use both low and high level inputs at the same time. Connect only one or the other.
- Keep low level inputs away from any power wires to avoid engine noise.
- Never run any wires underneath or outside the vehicle.

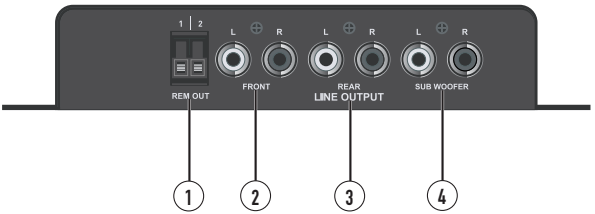
Inputs/Output Panel Description

[Input Side]



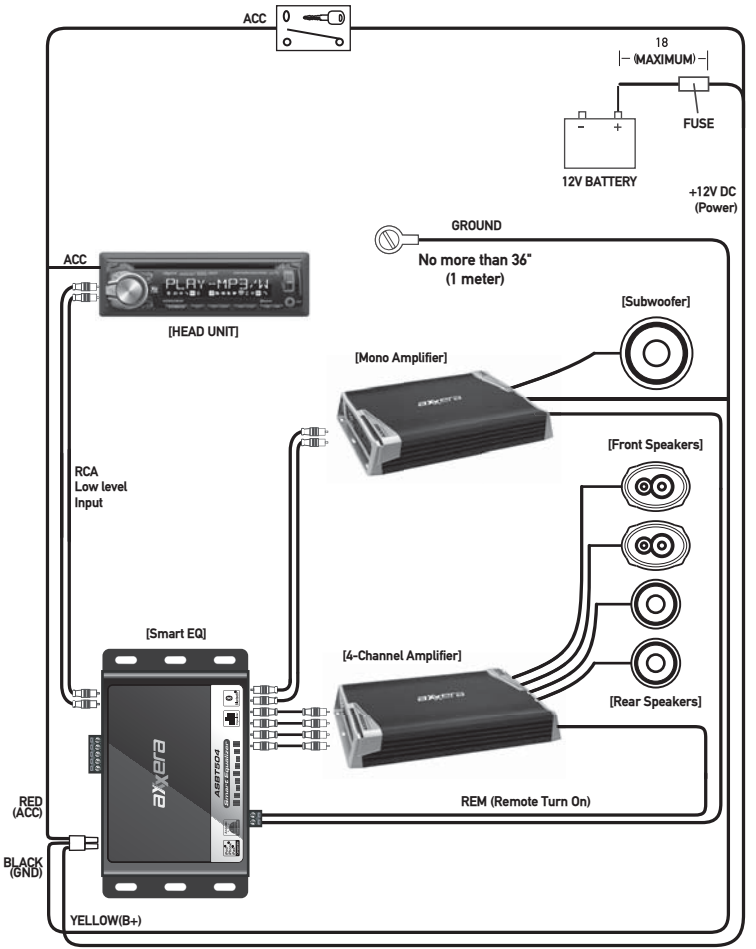
1. Line Input
2. High Level Input
3. Power LED
4. Power Connector
5. Reset

[output side]



1. Remote-out for Amplifier Turn on/off
2. Line Output Front
3. Line Output Rear
4. Line Output Subwoofer

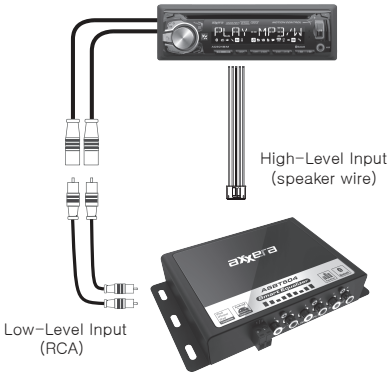
Typical Wire Routing



Input Connections

The input source of the Smart EQ can use either the RCA preamp outputs or High Level speaker wire inputs from the head unit or Bluetooth A2DP streaming from a connected Bluetooth device.

Note : User can select the audio signal source using the app on the Bluetooth connected device. The default Audio Source is the head unit.

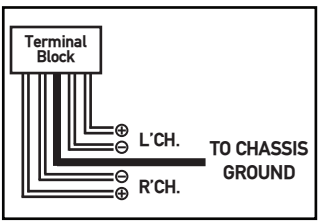


Low Level Inputs(RCA)

• Low level(RCA) input signal is preferred for best performance. Typical trunk-mount installations require a 17-20 foot RCA cable. Using twisted pair RCA cables will minimize noise.

High Level Input(Speaker wires of head unit)

• High level inputs should only be used when RCA outputs are not available from the head unit. Connect the head unit speaker outputs to the high level input connector as shown.



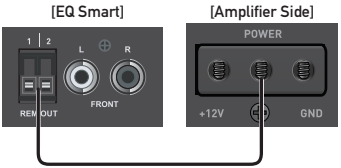
Notes : Do not use both low and high level inputs at the same time – connect only one or the other. When no audio signal, power LED will blink one per a second. If music is played, this LED turn on solid.

Output Connections

Amplifier Connection

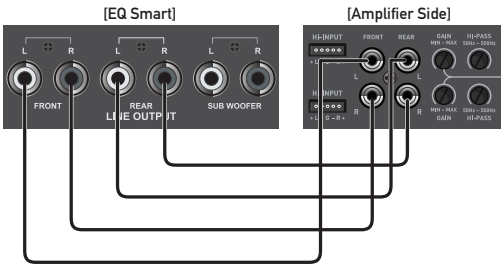
- Remote-turn on/off

REM OUT has to connect to the REM IN terminal of amplifier as below.
This signal is for the power on/off of amplifier. If audio signal is entered into Smart EQ, Smart EQ will give a signal in order to use for turning on the power of amplifier.



- RCA Rear/Front outputs

These outputs should connect to a multi-channel amplifier that controls your full range speakers in the vehicle.

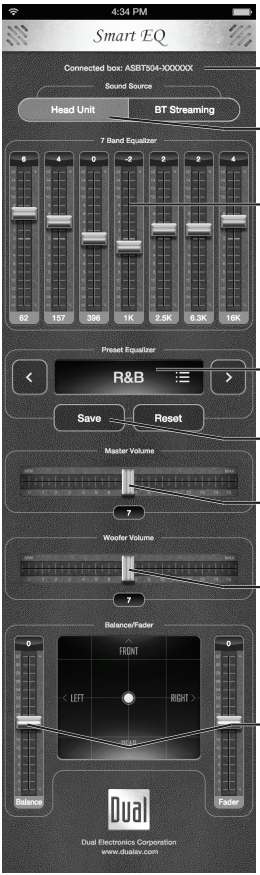


- Sub woofer outputs

These outputs should connect to a 2ch/Mono amplifier that controls your subwoofer.

Using Application

- Application for Smart EQ
  All adjustments to this unit can be controlled by the Smart EQ App from any smartphone. User can download it from iTunes for iPhone/iPod touch or Google Play Store for Android phone.



When the unit is paired and connected it will show the name of the Smart EQ.

Select the input source by selecting either the Head Unit or Bluetooth Streaming button.

To control the 7-band EQ move the slide bars for each frequency up and down.

To select a pre-defined EQ setting including saved setting press the right side of Pre-defined EQ or the left or right arrow button. When pre-defined EQ displays 'Temporary', it is not saved until you press 'SAVE' button.

You can save your personal EQ settings using the SAVE button.

To control the Main volume move the slide bar left and right

To control the Subwoofer volume move the slide bar left and right.

To control Balance/Fader move the slide bar up and down.

Using Application

- Bluetooth pairing
  User has to connect the Smart EQ to a smartphone in order to control the Smart EQ using smartphone.

  Pairing the Smart EQ with your device.
  Pairing is the process connecting two devices over Bluetooth and allowing them to communicate. You will need to go through the pairing process with each device you use the Smart EQ with a new device, and the Smart EQ will automatically try to reconnect to the last device it was paired with.
  NOTE: If your device requires a pin code to connect during the pairing process, use "0000" or "1234".

  Please note that the Smart EQ can only be actively connected to one device at a time. To make the Smart EQ connect to a new device, the first device's Bluetooth function must be turned off or be out of range of the Bluetooth signal. The Smart EQ will also remember the last device it was connected to. When the Smart EQ is turned off and turned back on again, it will first attempt to reconnect to the last device it was connected to before connecting to a new device.

  Pairing the Smart EQ with the iPod touch or iPhone.
  (NOTE: these instructions were written using iPhone OS version 7.0. screenshots and specific wording may change if you are using a different version of the iPhone OS.)
  1) On the iPod touch/iPhone go to Settings-> Bluetooth
  3) Turn on Bluetooth. The iPod will automatically begin looking for the Smart EQ.
  4) Start a car or set the key at the ACC position. Red LED will blink one per a second.
  5) After a few seconds, the Smart EQ will appear in the list of devices, along with the words "Not Paired". See figure xxx. (Note for figure : the device name will be SmartEQ-xxxxxx. The last 6 digits are part of the Bluetooth ID and will vary from device to device.) At this point, the iPod recognizes that the Smart EQ is available, but the two devices are not connected yet.
  6) Tap the Smart EQ in the list of devices on the iPod to connect to it. The words "Not Paired" will disappear, and be replaced by the spinning cursor.
  7) After approximately 10 seconds, the Smart EQ name will change to blue text and the word "Connected" will appear.

  Pairing the Smart EQ with the Android smartphone.
  Please, follow Bluetooth connection method for each smartphone.

Troubleshooting

Problem	Cause	Action
Unit will not turn on (no power LED indicator)	+12V wire not connected or incorrect voltage.	Check connections for proper voltage (11~16VDC)
	GND wire not connected	Check connection to ground
	ACC wire not connected.	Check connection to ACC line.
Power LED is solid in red, but no sound.	REM OUT wire not connected.	Check the REM connection between Smart EQ and amplifier.
	Audio out wire not connected.	Check audio out connection between Smart EQ and amplifier.
Power LED is blinking.	No problem	Play music from head unit or smartphone.
Engine noise	Bad ground connection	Make sure Smart EQ and amplifier are grounded to clean bare metal.
	Signal ground loop or RFI (radio frequency interference)	Re-route RCA cables from existing high current wiring.
Distorted audio output	Incorrect input signal type or input level too high	Check connections and reduce/adjust input level
Low audio output	Incorrect input signal type or input level too low	Check connections and reduce/ adjust input level

Specifications

Dimensions(WxDxH)

- **7” x 4.1” x 1.2” (177 x 103.4 x 31mm)**

Power

- **Reference voltage : 14.4V DC(10V to 16V)**

Bluetooth

- **Compatibility : Version 2.0 + EDR**
- **Support profile : A2DP, AVRCP, SPP**
- **Range : up to 10m**

Audio intput

- **Low level : 4V RMS**
- **High level : 10V RMS**
- **Frequency response : 20Hz – 20kHz**

Audio output

- **Line output voltage : 4V RMS**
- **Line output impedance : 200 ohms**
- **THD : < 0.05% @ 1kHz, 1V RMS**
- **SNR : > 85dB @ a-weighted**
- **Channel separation : > 70dB @ 1kHz**

Compliance

ICC Compliance
This Class [B] digital apparatus complies with Canadian ICES-003.

FCC Compliance
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause un-desired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is con-nected.
• Consult the dealer or an experienced radio/TV technician for help.

One-Year Limited Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase.

Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

Who is covered? This warranty is extended to the original retail purchaser for products purchased from an authorized Dual dealer and used in the U.S.A.

What is covered? This warranty covers all defects in material and workmanship in this product. The following are not covered: software, installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product. Specific license conditions and copyright notices for the software can be found via www.dualav.com.

What to do?

1. Before you call for service, check the troubleshooting guide in your owner's manual. A slight adjustment of any custom controls may save you a service call.

2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.

3. Please describe your problem in writing and include your name, a return UPS shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.

4. For more information and for the location of the nearest authorized service center please contact us by one of the following methods:

   - Call us toll-free at 1-866-382-5476 (Monday-Friday, 9AM-5PM, EST)
   - E-mail us at cs@dualav.com

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.

Notes

Notes

Dual Electronics Corp.
Toll Free: 1-866-382-5476
Monday-Friday, 9AM-5PM, EST

www.axxeraaudio.com
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